

"obtained by square-braiding eight internally reinforced braiding yarns 4."

Claim 2 is pending, and it has been rejected as unpatentable under 35 USC 103 over Ueda et al '030 in view of Ogino et al, and over DeWitt, Sr. in view of Schnitzler. These rejections are respectfully traversed.

Claim 2 defines the packing of the invention as comprising a plurality of internally reinforced braiding yarns, with each braiding yarn having a plurality of longitudinally arranged reinforcing fiber yarns held together by expanded graphite which is internally bonded to the reinforcing fiber yarns by adhesive. The plurality of internally reinforced braiding yarns are thin braided together.

Regarding the first rejection, the Examiner suggests that "Ueda et al '030 discloses all features including the use of expanded graphite....[although] adhesives are not explicitly mentioned." The Examiner then suggests that "Ogino et al teaches....adhesives for the purpose of reinforcing the graphite sheets."

Regarding the second rejection, the Examiner suggests that Case et al discloses all features except for the use of expanded graphite....the use of TFE binder which acts as an adhesive to bind the graphite to the fibers...." The Examiner then suggests that "Schnitzler teaches the well known use of expanded graphite which is preferred for use in packings due to its mechanical properties."

It is respectfully submitted that the Examiner is taking liberties with these references which are not justified by either the references themselves or the state-of-the-art as it has developed historically.


Both Ogino et al '334 and Schnitzler are typical of the art relating to a packing using expanded graphite material wherein the packing is formed into a ring-like compact obtained by compression molding (see column 3, lines 61-64 of Ogino et al, and column 2, lines 29-32 of Schnitzler). This procedure is known in the art as "mold packing" or "compression packing." There is no braiding disclosed in these patents. Without braiding, the expanded graphite material, corrugated ribbon or tape in the "mold packing" or "compression packing" technique are flexible and can be easily torn, even by hand.

This is precisely why the Ueda '722 patent was developed to introduce braiding into the packing art. In Ueda '722, there is no reinforcement, however. Reinforcement was introduced by Ueda et al '030. This reinforcement, however, is "external" and not "internal", i.e., the reinforcement is not surrounded by an expanded graphite material. This has an adverse affect in that the reinforcing material is exposed on the surface of the braided packing which adversely affects sealing. According to the present invention, the reinforcement is "internal" because it is surrounded by expanded graphite material.

The references do not recognize braiding with internally reinforced yarn as is claimed in claim 2.

The Examiner is urged to reconsider his two rejections in view of the above and to now indicate that claim 2 is allowed.

Respectfully submitted,

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